

# Bidirectional Power Module Specification

TPS-BM1510KTHIF/TPS-BM1510KTHIRF





### Features

- AC three-phase without neutral line, no neutral line current
- Three-phase AC-DC bidirectional isolation and energy flow, reliable inverter in grid-connected system
- Mature and excellent soft switching technology, more reliable and efficient
- High efficiency in both directions, saving energy consumption expenses for customers
- Bidirectional high PF >0.99, low THDi <5%
- Excellent EMC, meeting EN55032 and other international standards
- Strong adaptability, adapts to unstable grids and harsh environments, no derating at 45°C
- Modular design, intelligent expansion, automatic parallel operation
- Perfect fault protection function
- Can pass UL, CE, TUV certification

### Applications

- Cell formation and test equipment
- Power bidirectional test equipment
- Energy recyclable power aging equipment

### Profile

#### TPS-BM Three-phase LV AC-DC BPM

TPS-BM three-phase AC-DC BPM adopts advanced three-phase none neutral line technology to realize AC-DC bidirectional energy conversion in three-phase system, completely solves the problem of neutral line current in the power system. The mature soft switching technology is also adopted. The module provides high performances such as high reliability, strong adaptability of grids and environments, bidirectional seamless switching without voltage difference, high efficiency, low THDi, high PF, high power density.

### Specification

Product Model		TPS-BM1510KTHIF / TPS-BM1510KTHIRF	
AC To DC Direction	Rated Output Capacity		10000W
	AC Input	Wiring Mode	3Ph+PE
		Rated Voltage	380/400/415VAC
		Voltage Range	343~456VAC, full load; 304~343VAC, derating to 80%
		Frequency Range	50/60 ± 5Hz adaptive control
		Input Current	≤19A
		THDi	<5% @380VAC, full load, power grid THDu ≤2%
		PF	0.99 @380VAC, full load, power grid THDu ≤2%
	DC Output	Rated Voltage	15VDC
		Rated Current	666.7A
		Voltage Accuracy	1%
Ripple Voltage		250mV	
Peak Efficiency		92%	

DC To AC Direction	Rated Input Capacity		8000W
	DC Input	Rated Voltage <sup>①</sup>	15VDC
		Rated Current	533.3A
	AC Output	Voltage Range	343~456VAC,full load; 304~343VAC; derating to 80%
		Frequency Range	50/60 ± 5Hz adaptive control
		THDi	<5% @380VAC, full load, power grid THDu ≤2%
		PF	0.99 @380VAC, full load, power grid THDu ≤2%
		Peak Efficiency	92%
Complete Machine	System	Power Direction	Bidirectional
		Isolation Method	High frequency isolation
		Cooling System	Forced air cooling, intelligent control
		Air Flow	Default: Front inlet and rear outlet, R type: Rear inlet and front outlet(front: fan; rear: terminal)
		Expandability	Up to 4 units connected in parallel
		Non-balance of Current Sharing	≤5%
	Environment	Operation Temperature <sup>②</sup>	-10°C~45°C full load, 45°C~60°C power derating to 90%
		Storage Temperature	-40°C~70°C
		Relative Humidity	5~95%(no condensing)
		Operation Altitude	< 2000m; derating use above 2000m, temperature derating 1% per 100m rising
	Interface	Indicator Lamp	Operation: Blue    Fault: Red
		Communication	CAN
	Mechanical	Size(W*H*D)	218mm*86mm*300mm
		Weight	≤6.5kg

Note:

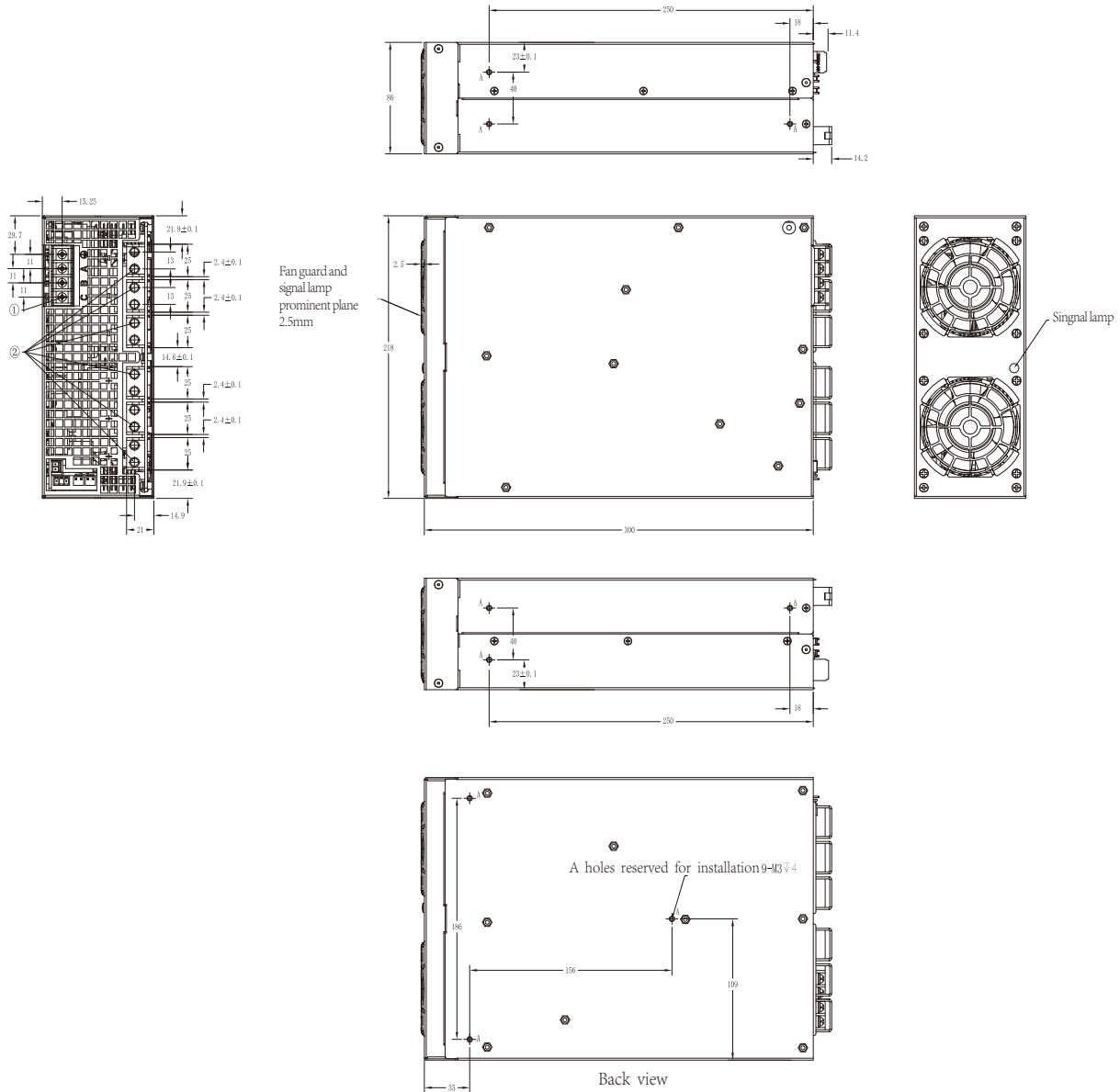
- ① DC side voltage exceeding 20VDC will cause power failure
- ② Shut down due to over temperature after overload



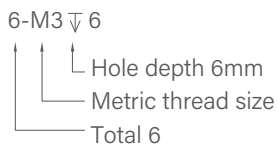
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### Dimension

• TPS-BM1510KTHIF/TPS-BM1510KTHIRF Installation Structure



• Identification explanation



• Warning

1. The length of the screw shall not exceed the depth of the hole in the drawing when the screw is installed at the reserved hole position ( $\nabla$ ). Otherwise it will cause damage to the equipment.

Serial number	Type	Name	Specification	Quantity	Tightening torque
②	Output terminal fastening screws	GB907413-88 series cross slot hexagon head spring flat washer combination screws	M6X12	12pcs	2N·M
①	Input terminal fastening screw	Cross recessed pan head flat washer combination screw	M4X8.5	4pcs	1.5N·M

Dimensional tolerance (GB1804-M level)	0.5-6	$\pm 0.1$	Unit	Proportion	Projection identification
	6-30	$\pm 0.2$			
	30-120	$\pm 0.3$			
	>120	$\pm 0.5$			